i-Food

Exploration of **energy and space** efficient ways of **environmental friendly and healthy** food production, **by the individual and the community,** with the goal of food autarky.

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The Why Factory

Graduation Project

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Agro-City

2050: The earth's population as estimated by the United Nations will be 9.2 billion people. In order to be able to sustain this population number and afford a further growth, humankind has to radically change the way we produce, process and consume food.

The current food production system abuses the natural environment in a multitude of ways. Ranging from soil deterioration to the draining of fossil fuel and the consequent CO2 production and climate change effect, the issues that food production causes are complex and interconnected.

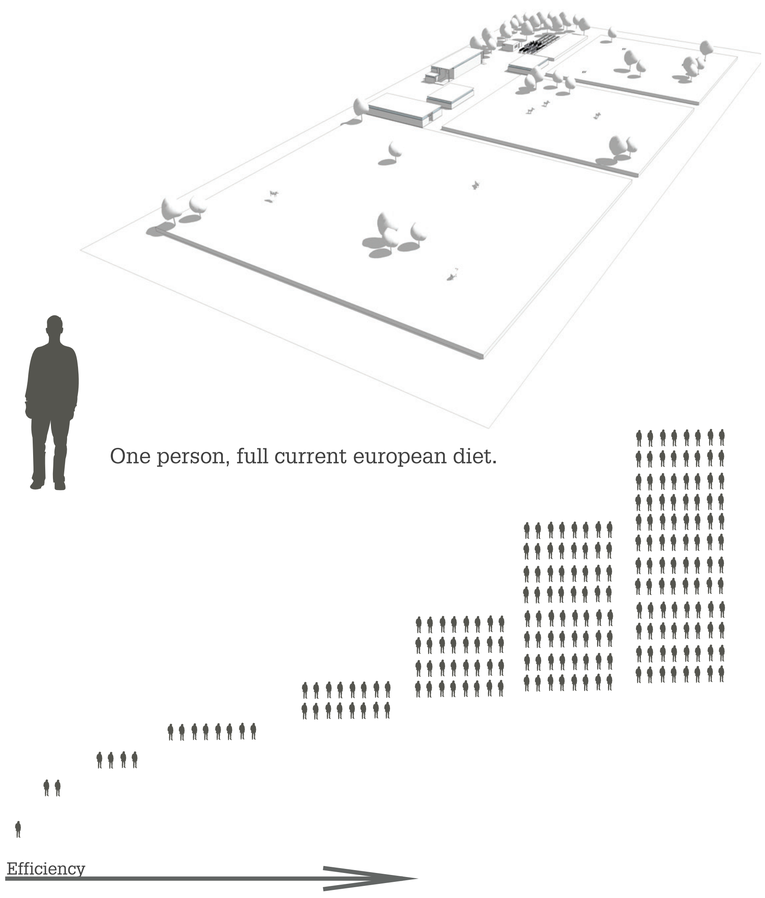
AgroCity is examining possible solutions to this series of challenges.

Looking into different approaches as sources of inspiration, AgroCity is revisiting old methods of agriculture and combines them with new technologies and innovation. Further into the food chain, other aspects are examined to some extend: food processing, storage, water and waste management are some examples.

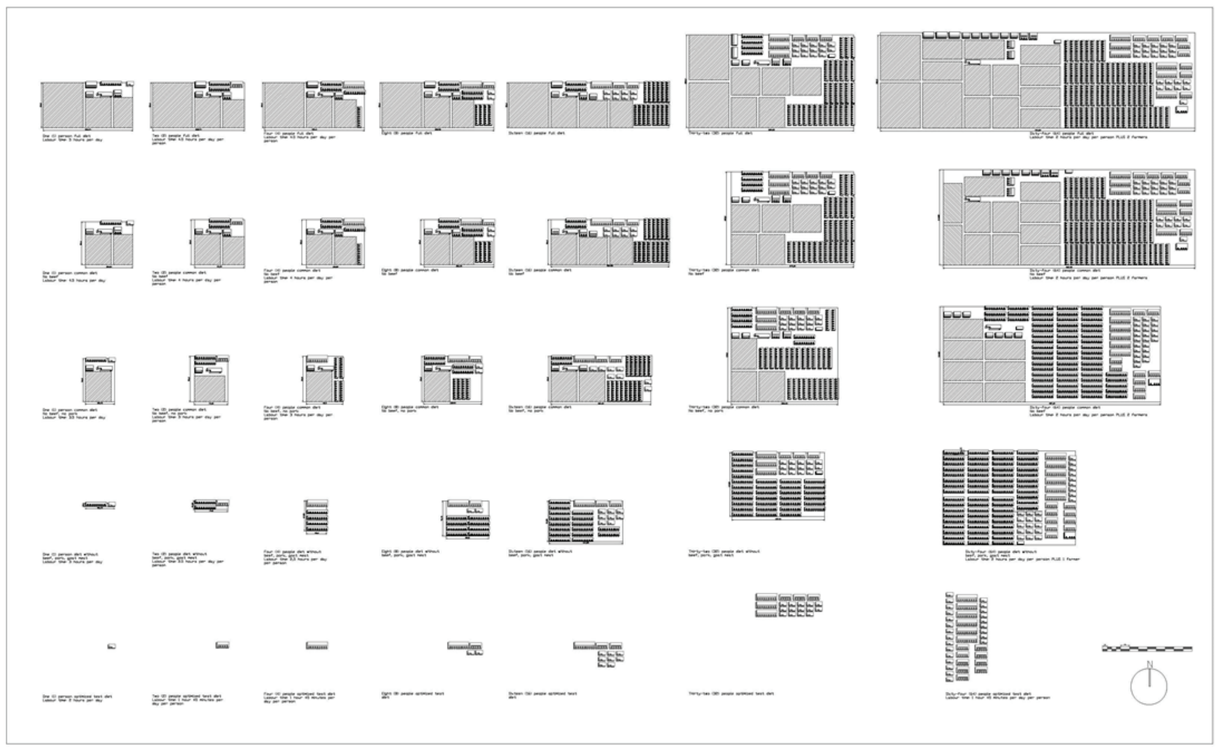
In terms of design, AgroCity is using a bottom up approach, starting from the needs of one person. It illustrates how space efficiency increases when food production becomes collective. The result of this study is an optimum size of communities. This optimum size changes also according to the diet ingredients. Diet changes are also proposed, as an effort to assure a healthy, nutritionally dense diet in a much smaller space than we are used to.

AgroCity is organizing the different elements used throughout this new food chain into a "Toolbox". Using modular designs that can easily be combined with each other, AgroCity offers a catalogue of growing, processing and preserving units that can be added as "plug ins" to the dwelling units or other urban program. This way, even existing cities could be transformed into food production machines, by taking advantage of empty spaces.

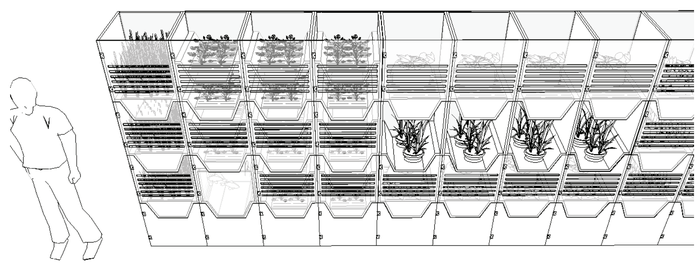
AgroCity is attempting to be a highly sustainable, space efficient, "user friendly" alternative to the current food chain, giving back to the people the power to feed themselves and know what they eat.



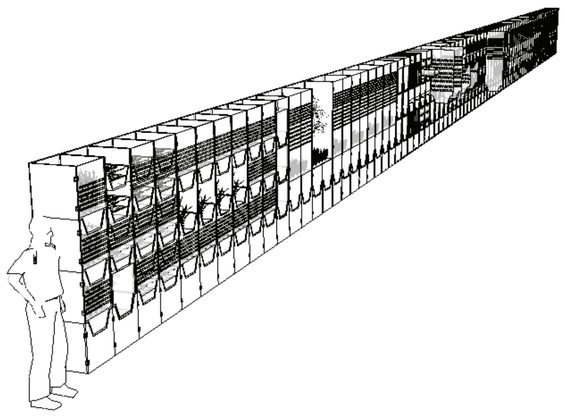
Collaboration effect on different diets



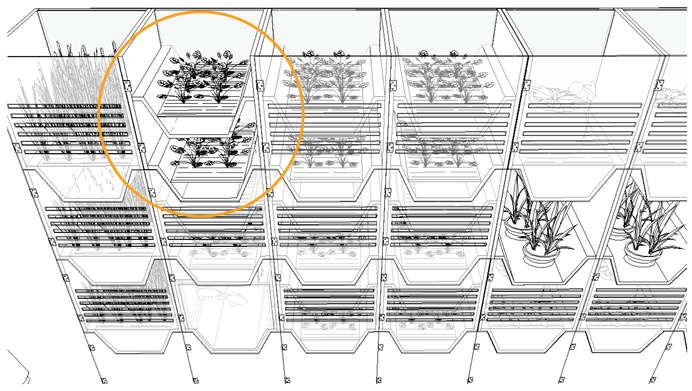
The i-Crates



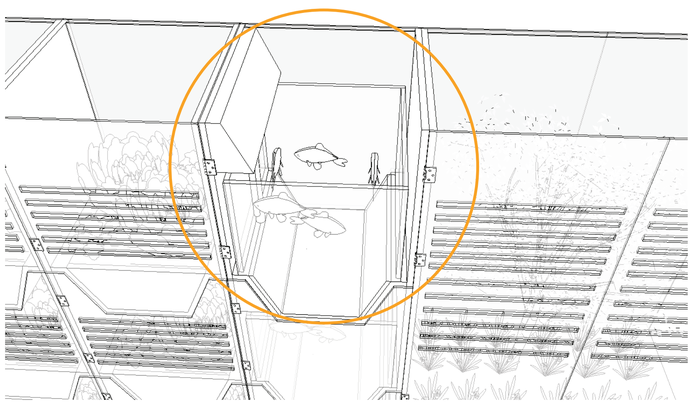
i-Crates fall into a grid of 60 X 60 X 60 cm.



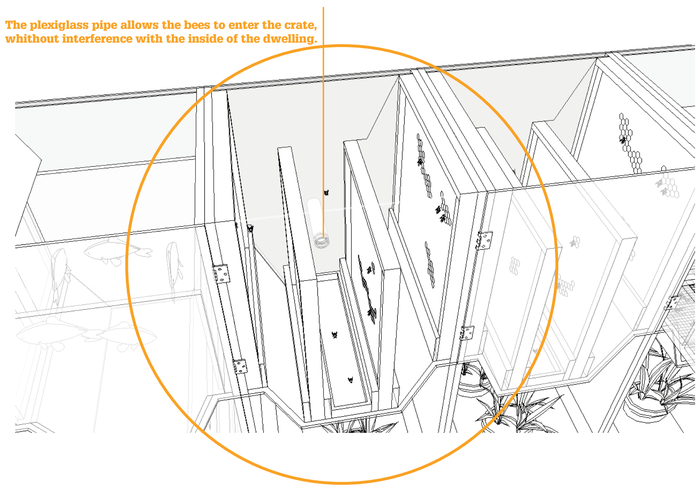
Sprouting trays/ Small root plants trays



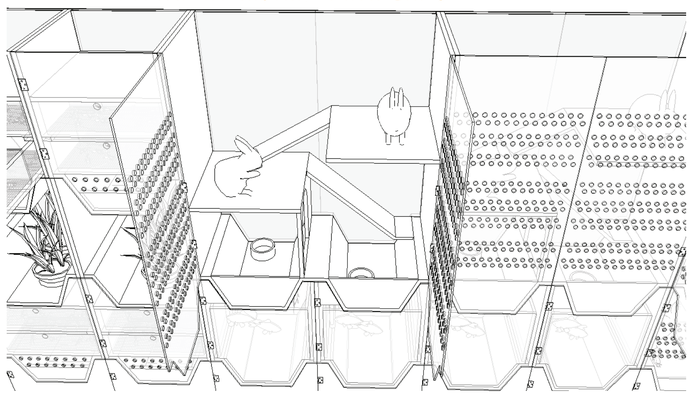
introducing... AQUAPONICS



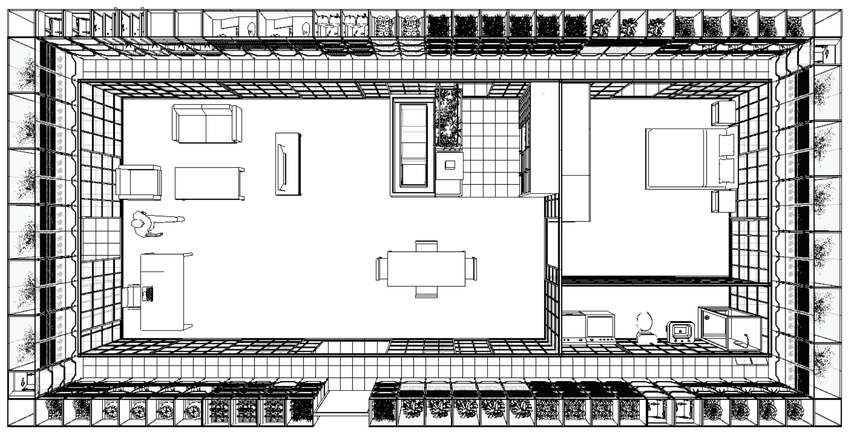
The plexiglass pipe allows the bees to enter the crate, whithout interference with the inside of the dwelling.



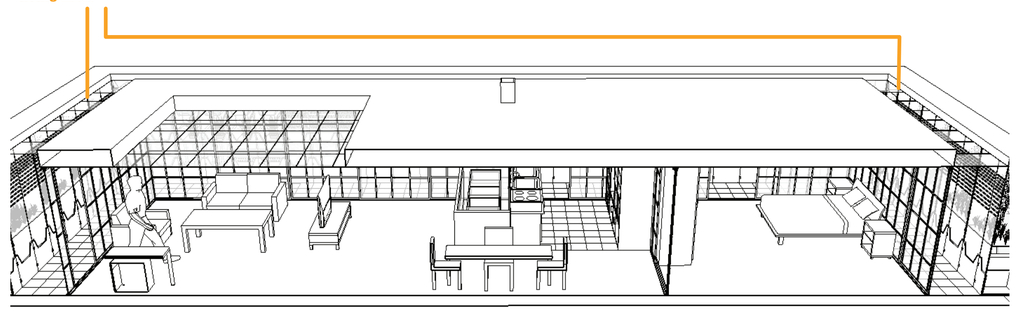
They can be fed with plant parts that are not used for cooking. They produce cold manure, which means manure that can be directly used, without composting.



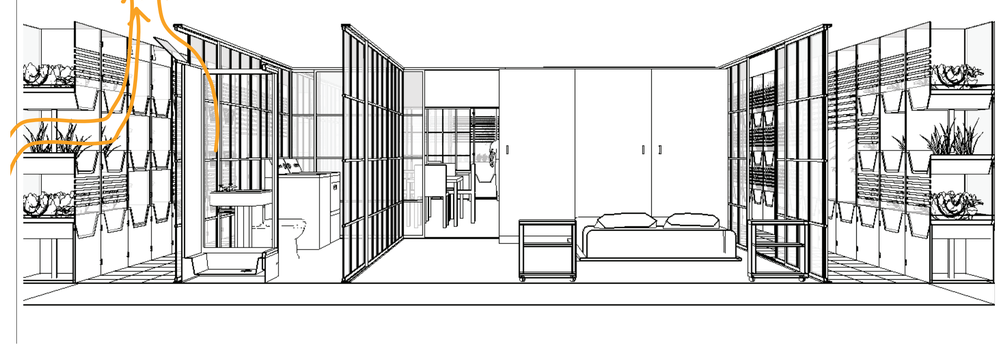
The i-Dwelling



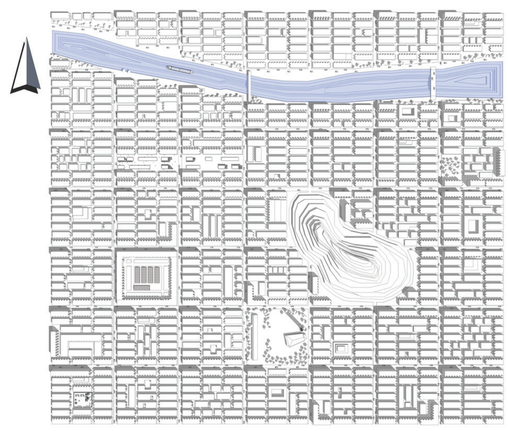
The food prodution corridor has fresh air access through the top. This way humid, warm air can leave the dwelling without entering the living area.



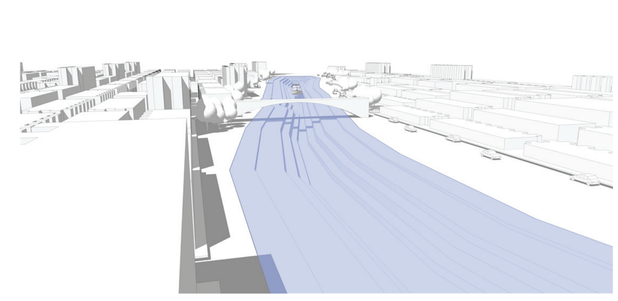
The bathroom is another area that accumulates humidity. To solve this issue, shojis that have inclining openings are used.

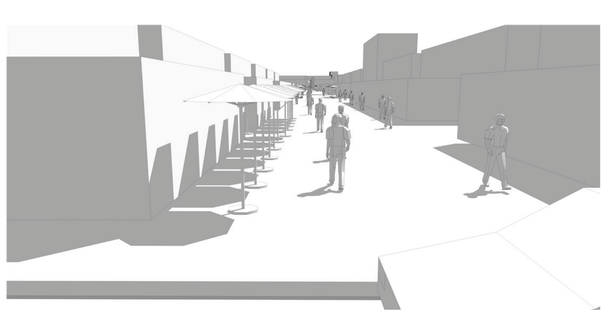


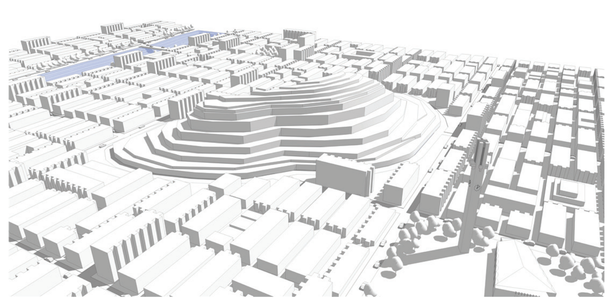
The i-Food City

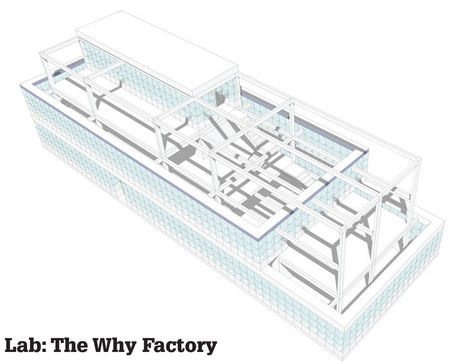


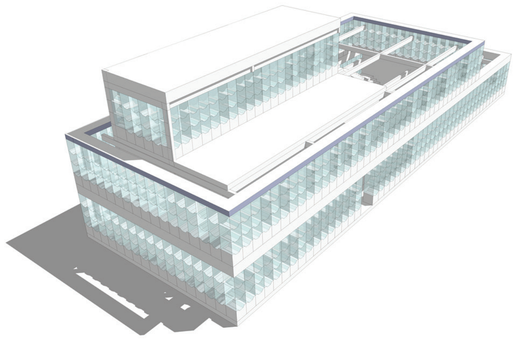
9000 inhabitants per km2

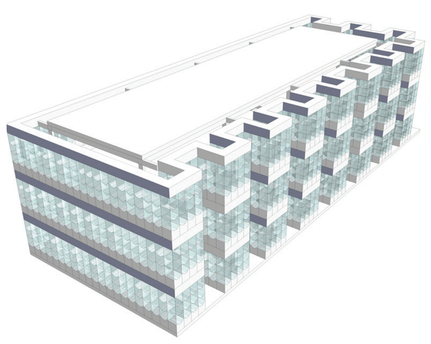


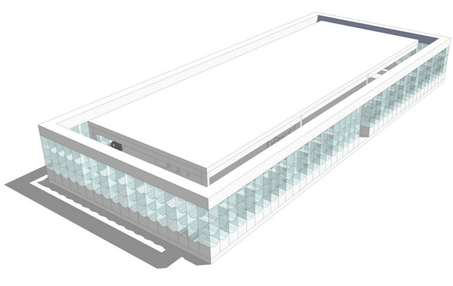












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